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United States of America

[DRAFT] PROPOSALS FOR THE WORK OF THE CONFERENCE

Proposals for Agenda Item 1.4

to consider issues concerning allocations and regulatory aspects related to Resolutions 126 (WRC-97), 128 (WRC-97), 129 (WRC-97), 133 (WRC-97), 134 (WRC-97) and 726 (WRC-97)

Background

Requests ITU-R 1 of Resolution **133 (WRC-97)** requested the ITU-R to determine whether the power-flux density limits included in Article S21 of the Radio Regulations adequately protect terrestrial services from FSS networks in the band 37.0-40.0 GHz. Resolution **129 (WRC-97)** requested the ITU-R to undertake studies of appropriate criteria and methodologies for sharing, including power flux-density limits, between the fixed-satellite service and the other services with allocations in the band 40.5-42.5 GHz.

The results of studies conducted in the ITU-R of known and proposed non-GSO FSS systems, and of known and proposed P-P and P-MP FS systems, indicate that maximum allowable values of power flux-density of -120/-105 dB(W/m^2·MHz) at the surface of the Earth would be adequate to protect terrestrial services from non-GSO FSS networks in the frequency band 37.5 - 40.5 GHz.

The results of studies conducted in the ITU-R of known and proposed non-GSO FSS systems, and of known and proposed P-P and P-MP FS systems, indicate that maximum allowable values of power flux-density of -115/-105 dB(W/m^2·MHz) at the surface of the Earth would be adequate to protect terrestrial services from non-GSO FSS networks in the frequency band 40.5 - 42.5 GHz.

In both cases, the studies were deemed valid for non-GSO FSS systems comprised of 99 or fewer satellites, and that independent verification would have to be performed if these levels were to be applied to any non-GSO FSS system with more than 99 satellites in its constellation. The results of the studies are reflected in Draft New Recommendation [4-9S/AH1], Maximum Allowable Values of Power Flux-Density at the Surface of the Earth Produced by Non-Geostationary Satellites in the Fixed-Satellite Service Operating in the 37.5-40.5 GHz and 40.5-42.5 GHz Bands to Protect the Fixed Service.

The results of studies conducted in the ITU-R show that, for a range of non-GSO and GSO fixed-satellite systems, and for a point-to-point and point-to-multipoint fixed service system operating with elevation angles that range from 0° - 40^0, the pfd levels of -115/-105 dB(W/m^2 per MHz) are adequate to protect the fixed service in the band 37.5-42.5 GHz from interference caused by GSO fixed-satellite service systems.

On the basis of these conclusions, the United States makes the following proposals for modifications and additions to Table S21-4 of Article S21 are made, and to suppress Resolutions 133 and 129 (both WRC-97). The United States bases its proposal to suppress Resolution 133 on the completion of the power flux-density studies referenced in Resolves 1 of that Resolution. To the extent that there may be

aspects of studies that encompass matters in Resolves 2 of Resolution 133 still ongoing in the ITU-R, particularly on issues of coordination methodology, the United States may make additional proposals (e.g., for a new WRC-2000 Resolution) to enable the completion of any such studies that have not been successfully completed prior to WRC-2000.

PROPOSALS UNDER AGENDA ITEM 1.4 (Resolutions 133 and 129):

USA/A1.4/03 Modifications to Table S21-4
MOD

	Frequency band	Service	Limit in dB(W/m^2) for angle of arrival (∗) above the horizontal plane			Reference bandwidth
			0° - 5°	5° - 25°	25° - 90°	
	. . .					
MOD	31.0-31.3 GHz 34.7-35.2 GHz (S-E transmissions referred to in No. **S5.550** on the territories of countries listed in No. **S5.549**) 37.0-40.5 GHz	Fixed-Satellite **(geostationary-satellite orbit)** Mobile-Satellite Space Research	-115 ~~10~~	-115 + 0.5 (∗-5) ~~10~~	-105 ~~10~~	1 MHz
	37.5-40.5 GHz	**Fixed-Satellite (non-geostationary-satellite orbit)**	**-120 10**	**-120 + 0.75 (∗-5) 10**	**-105 10**	**1 MHz**
	40.5-42.5 GHz	**Fixed-Satellite**	**-115 10**	**-115 + 0.5 (∗-5) 10**	**-105 10**	**1 MHz**

MOD 10 **S21.16.4** The values given in this table shall not apply to emissions of space stations on non-geostationary satellites in networks operating with 100 or more satellites.

Reasons: The PFD-review objectives of Resolutions **133 (WRC-97)** and **129 (WRC-97)** have been met. The values stated above for non-geostationary satellite orbit FSS systems in the bands 37.5-40.5 GHz and 40.5-42.5 GHz respectively are included in a draft new recommendation approved by the ITU-R. See Draft New Recommendation [4-9S/AH1], Maximum Allowable Values of Power Flux-Density at the Surface of the Earth Produced by Non-Geostationary Satellites in the Fixed-Satellite Service Operating in the 37.5-40.5 GHz and 40.5-42.5 GHz Bands to Protect the Fixed Service. In addition, studies have demonstrated the suitability for application to geostationary satellite-orbit FSS systems of the current pfd limits in the 37.5-40 GHz band and the application of the same limits to the fixed-satellite service in the 40.5-42.5 GHz band.

USA/A1.4/04
SUP Resolution 133

~~**Resolution 133 (WRC-97)**~~

~~**Sharing Between the Fixed Service and Other Services in the Band 37-40 GHz**~~

Reasons: Consequential

USA/A1.4/05
SUP Resolution 129

~~**Resolution 129 (WRC-97)**~~

~~**Criteria and Methodologies for Sharing Between the Fixed-Satellite Service and Other Services with Allocations in the Band 40.5-42.5 GHz**~~

Reasons: Consequential